Mr. Michael T. Davis Pre-Calculus	Units 4.1-4.4 Practice Quiz April 20, 2017

Name: Solutions

The Units 4.1-4.4 Quiz is on Monday, April 24

1. Evaluate $\sin C =$ $\frac{6}{10} = \frac{3}{5}$

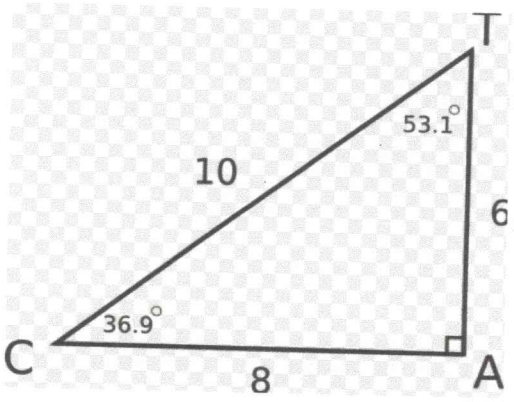
2. Evaluate $\cos T =$ $\frac{6}{10} = \frac{3}{5}$

3. Evaluate $\tan C =$ $\frac{8}{6} = \frac{4}{3}$

4. Evaluate $\csc T =$ $\frac{10}{8} = \frac{5}{4}$

5. Evaluate $\sec C =$ $\frac{10}{8} = \frac{5}{4}$

6. Evaluate $\cot T =$ $\frac{6}{8} = \frac{3}{4}$



7. Complete the statement (fill in the blank): $\sin 40^\circ = \cos$ 50°

8. True or False: $\cos\theta = \sin(90-\theta)$ True

9. Convert $\frac{\pi}{6}$ to an angle measure in degrees.

$\frac{\pi}{6} = 30^\circ$

10. Convert 60° to an angle measure in radians.

$60^\circ = \frac{\pi}{3}$

11. Convert $\frac{\pi}{2}$ to an angle measure in degrees.

$\frac{\pi}{2} = 90^\circ$

12. Convert 135° to an angle measure in radians.

$135^\circ = \frac{3\pi}{4}$

13. Convert $\frac{5\pi}{6}$ to an angle measure in degrees.

$\frac{5\pi}{6} = 150^\circ$

14. Convert π to an angle measure in degrees.

$\pi = 180^\circ$

15. Convert 210° to an angle measure in radians.

$210^\circ = \frac{7\pi}{6}$

16. Convert $\frac{4\pi}{3}$ to an angle measure in degrees.

$\frac{4\pi}{3} = 240^\circ$

17. Convert 270° to an angle measure in radians.

$270^\circ = \frac{3\pi}{2}$

18. Convert $\frac{7\pi}{4}$ to an angle measure in degrees.

$\frac{7\pi}{4} = 315^\circ$

19. Convert 300° to an angle measure in radians

$300^\circ = \frac{5\pi}{3}$

20. Write $\sin\frac{2\pi}{3}$ in terms of a reference angle

$\sin\frac{2\pi}{3} = \sin\frac{\pi}{3}$

21. Write $\tan 300^\circ$ in terms of a reference angle

$\tan 300^\circ = -\tan 60^\circ$

22. Write $\cos\frac{7\pi}{6}$ in terms of a reference angle

$\cos\frac{7\pi}{6} = -\cos\frac{\pi}{6}$

23. Write $\cos 150^\circ$ in terms of a reference angle

$\cos 150^\circ = -\cos 30^\circ$

24. Write $\tan\frac{5\pi}{6}$ in terms of a reference angle

$\tan\frac{5\pi}{6} = -\tan\frac{\pi}{6}$

25. Write $\sin\frac{11\pi}{6}$ in terms of a reference angle

$\sin\frac{11\pi}{6} = -\sin\frac{\pi}{6}$

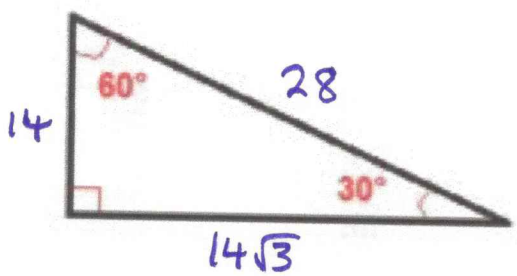
26. Write $\tan 225^\circ$ in terms of a reference angle

$\tan 225^\circ = \tan 45^\circ$ ← 45°

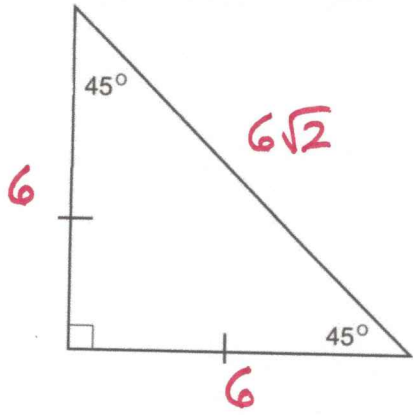
27. Write $\cos\frac{7\pi}{4}$ in terms of a reference angle

$\cos\frac{7\pi}{4} = \cos\frac{\pi}{4}$

28. Given the special triangle below with longest leg length $14\sqrt{3}$ inches, find the lengths of the other two sides.



29. Given the special triangle below with hypotenuse length $6\sqrt{2}$ cm, find the lengths of the other two sides.

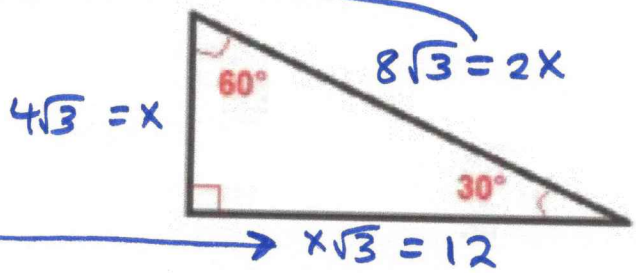


30. Given the special triangle below with hypotenuse length $8\sqrt{3}$ feet, find the lengths of the other two sides.

$8\sqrt{3} = 2X$

$4\sqrt{3} = X$

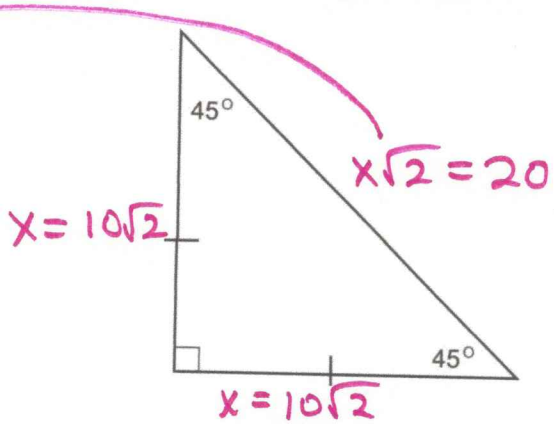
$X\sqrt{3} = 4\sqrt{3}\sqrt{3} = 12$



31. Given the special triangle below with leg length $10\sqrt{2}$, find the lengths of the other two sides.

$X\sqrt{2} = 10\sqrt{2}\sqrt{2}$

$= 20$



32. Given the special triangle below with hypotenuse length 10, find the lengths of the other two sides.

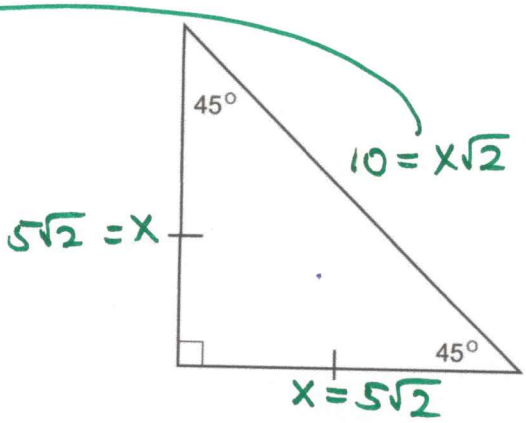
$10 = X\sqrt{2}$

$\frac{10}{\sqrt{2}} = X$

$\frac{10\sqrt{2}}{\sqrt{2}\sqrt{2}} = X$

$\frac{10\sqrt{2}}{2} = X$

$5\sqrt{2} = X$



33. Evaluate the trigonometric expression $\sin\frac{\pi}{3} =$ $\frac{\sqrt{3}}{2}$

34. Evaluate the trigonometric expression $\cos 45^\circ =$ $\frac{\sqrt{2}}{2}$

35. Evaluate the trigonometric expression $\tan 45^\circ =$ 1

36. Evaluate the trigonometric expression $\tan\frac{\pi}{2} =$ $\frac{1}{0} = \text{undefined}$

37. Evaluate the trigonometric expression $\cos\frac{2\pi}{3} =$ $-\cos\frac{\pi}{3} = -\frac{1}{2}$

38. Evaluate the trigonometric expression $\sin\frac{3\pi}{4} =$ $\sin\frac{\pi}{4} = \frac{\sqrt{2}}{2}$

39. Evaluate the trigonometric expression $\cos\pi =$ $\frac{-1}{1} = -1$

40. Evaluate the trigonometric expression $\cos\frac{7\pi}{6} =$ $-\cos\frac{\pi}{6} = -\frac{\sqrt{3}}{2}$

41. Evaluate the trigonometric expression $\sin 330^\circ =$ $-\sin 30^\circ = -\frac{1}{2}$

42. Evaluate the trigonometric expression $\tan 2\pi =$

$\tan 2\pi = \frac{0}{1} = 0$

43. Write the coordinates on the unit circle at the 30° point

$\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$

44. Write the coordinates on the unit circle at the $\frac{\pi}{4}$ point

$\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

45. Write the coordinates on the unit circle at the 60° point

$\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

46. Write the coordinates on the unit circle at the $\frac{\pi}{2}$ point

$(0,1)$

47. Write the coordinates on the unit circle at the 120° point

$\left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

48. Write the coordinates on the unit circle at the $\frac{5\pi}{6}$ point

$\left(-\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$

49. Write the coordinates on the unit circle at the 315° point

$\left(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}\right)$

50. Write the coordinates on the unit circle at the $\frac{5\pi}{3}$ point

$\left(\frac{1}{2}, -\frac{\sqrt{3}}{2}\right)$